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ABSTRACT

Early language development was investigated in an observational study of three white 2-year-old infants of working class families in the inner city. In each family's living room, one hour videotapes were made of each infant's behavior at 3-week intervals over a period of 8 months. With the collaboration of family members, transcripts were made of infant speech nonverbal behavior and the speech of others. Analysis of utterances was based on a set of categories identified by Bloom, Lightbown and Hood. Eleven of the categories accounted for 74% of the multi-word relations, which compares to 77% found by Bloom et al. for middle-class children. Also consistent with the findings of other researchers on middle-class children were the following: (1) verb relations are much more frequent than functional relations for all three children; (2) there is a decrease over time in the proportion of functional relations; and (3) the proportions of verb relations are 40 to 50% for all three children. Overall, these findings indicate an impressive degree of resemblance between these three infants from South Baltimore and children from other backgrounds, with respect to one of the major tasks of early language development, learning to combine words to express a small set of meanings. (Author/SS)

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Early Language Development of Three Children from a White, Working-Class Community

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For the past few years I have been working on a study of early language development in a white, working-class community called South Baltimore. This is an inner-city neighborhood of modest rowhouses whose residents raise families and work in nearby factories. Despite the existence of a long tradition of research on the relationship between social class and language development among school-aged children, we know virtually nothing about the early language development of children from communities like South Baltimore. My study is a first attempt to remedy this situation. Many of the comparative studies of school-aged children of different classes have been criticized for giving biased assessment of what poor children know about language. In describing my study I will suggest some lines of inquiry which I believe will lead to a fairer assessment of knowledge across social class. After describing the study, I will present the results of my first analysis.

The subjects were Amy, Wendy, and Beth--healthy, white, two year olds whose families lived within nine blocks of one another. At the beginning of the study they were starting to combine words and ranged in age from 18 to 25 months. All were first-born children. Amy's mother worked in a factory where she earned about $5000 per year. The other two received much smaller incomes from Aid to Dependent Children. All of mothers had lived in South Baltimore for at least five

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years and spoke the local dialect of nonstandard English. Two had dropped out of high school in the eighth grade; one was a high school graduate. Although I tried to keep several variables constant in selecting the subjects, the families differed in some obvious ways, such as the number of people per family.

In contrast to the vast majority of studies on the language abilities of poor children, this study used a naturalistic, observational, longitudinal paradigm that, until now, has been applied only to the study of middle-class children. There are at least two reasons why this paradigm is particularly well suited to studies of children from different social and ethnic groups and may promote a fairer assessment of their knowledge of language: (1) it involves observation of children under everyday conditions when they are engaged with the people, tasks, and situations that they know best; (2) this paradigm seeks detailed descriptions of individuals, thereby affording some protection against the widespread tendency to exaggerate class differences and to ignore or minimize similarities across class and variation within each class.

Built into the design was a preliminary get-acquainted period. During this time I visited the families on several occasions so that we could get to know each other before the data collection phase of the study. This was a necessary prelude to a study that involved all of us in an ongoing, personal relationship. It was also important from the standpoint of getting a representative sampling of everyday behavior, one that was not unduly distorted by the observation procedures

themselves.

The core of the study consisted of video taping sessions spaced at three-week intervals over a period of eight months. I set up the equipment in the livingroom and shot continuously for one hour. The situation was as naturalistic as possible, with one exception. At the end of forty minutes I introduced four toys which the child could play with any way she pleased. The reason for this was to insure some comparability of situation over time and across children. I tried to stay in the background during these sessions but I interacted with anyone who initiated contact.

In transcribing the video tapes, I made a special effort to obtain an accurate written record of child speech. This was important for several reasons: (1) it is often hard to understand a 2-year-old, especially for someone who does not know her intimately and does not speak her dialect; (2) shooting under naturalistic conditions means that there will some extraneous noise; (3) all analyses depend on the accuracy of the transcript. It was discovered that the goal of getting an accurate transcript could best be achieved through a process of collaboration between the investigator and the people who decipher child speech everyday, namely the child's family. They are uniquely qualified to transcribe child speech by virtue of their position as insiders. They become adept at understanding the child--attending to the highly information-laden words, recognizing idiosyncrasies of pronunciation, and surveying the situation for clues to her meaning.

This is a set of skills that I did not have nearly to this degree. Instead, I had an awareness of certain issues in the study of language development, previous experience in transcribing child speech, and a sensitivity to the small, "non-essential" unit^s of language, e.g. did she say "I'm goin" or "I goin."?

In other words, we brought essential, complementary skills to the task of transcribing. I made a transcript as soon as possible after each video taping session. A member of the child's family made a separate transcript of each tape at the end of the study. I later used these two drafts as the basis for a final transcript, in some cases seeking further help from the families. As a result of these efforts the proportion of unintelligible utterances per sample was kept to a minimum. The median rates of unintelligibility were 7%, 11%, and 9% for Amy, Wendy, and Beth, respectively. In this way the families made a direct and valuable contribution to the study of their children's language development. The notion of transcription as collaboration is in keeping with Gadlin & Ingle's (1975) call for a re-conceptualization of the scientist-subject relationship. Collaboration between scientist and subject is one means by which the traditional conception of the scientist-subject relationship can be transformed so as to credit the subjects with their knowledge. I believe that the need for such transformations is especially compelling when the subjects are members of groups that, according to the values of society, do not possess valid knowledge. Such transformations will lead, I think, to a fairer assessment of knowledge across social class.

Now I would like to report the results of an analysis of

the kinds of meanings that Amy, Wendy, and Beth encoded in their early word combinations. This question has ample precedent in the study of child language. Bloom, Lightbown & Hood (1975) identified a set of categories which accounted for the early word combinations of four middle-class American children. Lightbown (1977) demonstrated the adequacy of these categories to account for data from two French-speaking children from Canada. Brown (1973), reviewing American data and cross-cultural data, arrived at a similar set of major meanings. Brown and others have suggested that these meanings represent the achievement of sensori-motor intelligence. I wanted to know whether these same meanings would also be found in the data from Amy, Wendy, and Beth.

For this analysis I worked from the video transcripts which included not only the record of child speech but a record of other people's speech and a detailed description of the child's nonverbal behavior. The analysis was based on the first eight samples for each of the children--an MLU period of roughly 1.5 to 2.5. All of the multi-word utterance types in each sample were identified and assigned to a category of semantic/syntactic relations. As a working hypothesis, I used the set of categories used by Bloom and her colleagues. The eleven major categories are listed and defined on the first page of your handout. Other catgories were, for example, Vocative, Dative, Wh-Question, Place, Stereotype, Routine/Rhyme, Greeting, and Affirmation. Inter-coder reliabilities, computed for samples I, V, and VIII for each of the children, ranged from .81 to .94.

Table 1 on the second page of your handout presents the first result. The majority of multi-word relations could be accounted for by eleven categories, namely, existence, negation, recurrence, action, locative action, locative state, state, notice, intention, possession, and attribution. Over all subjects and all samples the categories accounted for an average of 74% of the multi-word relations. This compares with 77% for the middle-class American children in Bloom et al. (1975) and 80% for the French-speaking children in Lightbown (1977). The similarity is striking and all the more so since there were other differences in these investigations aside from the type of population under study. (My study and the Lightbown study involved primarily mother-child interaction, whereas Bloom et al. involved primarily investigator-child interaction. My study involved video recording methods while the other two used audio recording methods.) It is harder to compare my data to the cross-cultural data that Brown (1973) reviewed because he used a somewhat different set of categories. Nevertheless, it is clear that these children from South Baltimore, like children from a variety of other language communities, form two and three word sentences whose meanings can be accounted for by a limited set of categories.

Further results are represented on the third page of your handout. Here I have plotted the development of the combined functional relations and the combined verb relations across the 8 samples for each child separately. The functional relations include the categories of Existence, Negation, and Recurrence.

These are called functional relations because utterances in these categories include function words which have the same meaning across many different contexts. The verb relations include the categories of Action, Locative Action, Locative State, State, Notice, and Intention. The points represent the proportions of all relations per sample which are functional relations and verb relations, respectively. There are three findings that I would like to draw to your attention:

(1) As you can see, verb relations are much more frequent than functional relations for all samples for all children. This finding is consistent with corresponding findings by Bloom et al. (1975) and Lightbown (1977).

(2) There is a decrease over time in the proportion of functional relations. By the eighth tape functional relations accounted for roughly 10% of all relations. These relations did not disappear, however. In fact, the absolute frequency of functional relations increased for two of the children (Amy, Wendy). These findings are also consistent with corresponding findings by Bloom et al. (1975) and Lightbown (1977) and seem to indicate that functional relations represent an early development and decline proportionately as the children add other relations to their repertoire.

(3) The development of verb relations is less clear. The proportions seem to hover between 40 and 50 for all three children. There is an increase over time for Wendy. This is consistent with the findings of Bloom et al. (1975) and Lightbown (1977). On the other hand, there is a decrease for

Amy and Beth. Examination of the relative frequencies of the other categories indicated that the main reason for this decline was that the proportion of Possessive relations increased dramatically for Amy and Beth.

Overall, these findings indicate an impressive degree of resemblance between three children from South Baltimore and children from other backgrounds, with respect to one of the major tasks of early language development, namely learning to combine words to express a small set of meanings. These findings are clearly at odds with past claims that poor children are linguistically impoverished.

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Brief Definitions of Eleven Categories of Semantic/Syntactic Relations*

functional relations	EXISTENCE	pointing out or naming an object
	NEGATION	reference to the nonexistence, disappearance, or rejection of an object or event
	RECURRENCE	reference to another instance of an object or event
verb relations	ACTION	reference to a movement whose goal is other than a change in the location of an object or person
	LOCATIVE ACTION	reference to a movement whose goal is a change in the location of an object or person
	LOCATIVE STATE	reference to the location of an object or person, no movement involved
	STATE	reference to an internal or external state
	NOTICE	reference to attention to a person, object, or event
	INTENTION	reference to a future event, involves a matrix verb and a main verb
	POSSESSION	reference to a relationship between an object and the person to whom it belongs
	ATTRIBUTION	reference to a characterization of an object or person

*For more complete definitions, see Bloom, Hood & Lightbown (1974), Bloom, Lightbown & Hood (1975), and Lightbown (1977)

Table 1

Proportion of Multi-Word Relations

Accounted for by Eleven Categories*

Tape	AMY Age mo,da	AMY MLU	AMY N†	AMY prop.	WENDY Age mo,da	WENDY MLU	WENDY N†	WENDY prop.	BETH Age mo,da	BETH MLU	BETH N†	BETH prop.
I	18,22	1.5	54	.83	23,29	1.6	113	.77	25,9	2.2	278	.83
II	19,15	1.5	65	.78	24,20	1.6	124	.77	25,23	1.9	202	.68
III	20,5	1.6	116	.67	25,15	1.6	127	.80	26,4	1.8	183	.77
IV	20,26	1.5	113	.70	26,2	2.1	216	.68	26,26	2.2	220	.80
V	21,16	1.5	128	.74	26,22	1.5	173	.76	27,15	2.0	136	.80
VI	22,7	2.2	240	.63	27,13	2.0	136	.79	28,7	2.1	288	.75
VII	23,2	1.6	254	.67	28,4	2.0	171	.71	28,23	2.4	256	.79
VIII	23,18	2.4	361	.75	28,24	2.1	379	.71	29,15	2.5	363	.79

*existence, negation, recurrence, action, locative action, locative state, state, notice, intention, possession, attribution

†N = total number of relations per sample

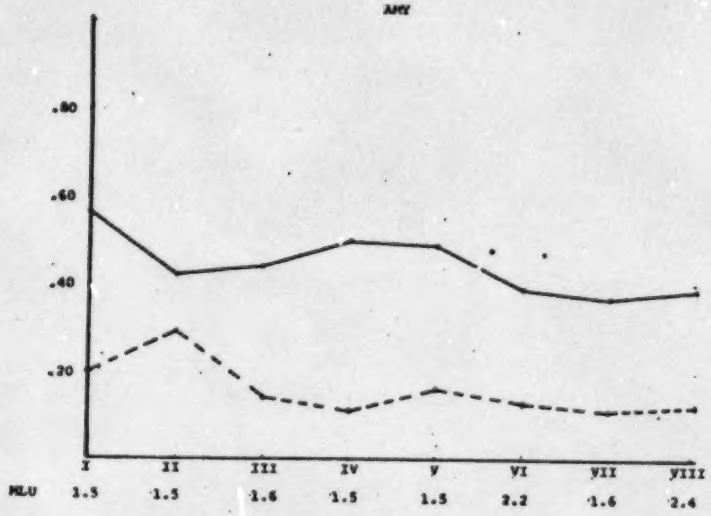
average proportion (across all children, all samples): .74

average proportion, Bloom, Lightbown & Hood (1975): .77
average proportion, Lightbown (1977): .80

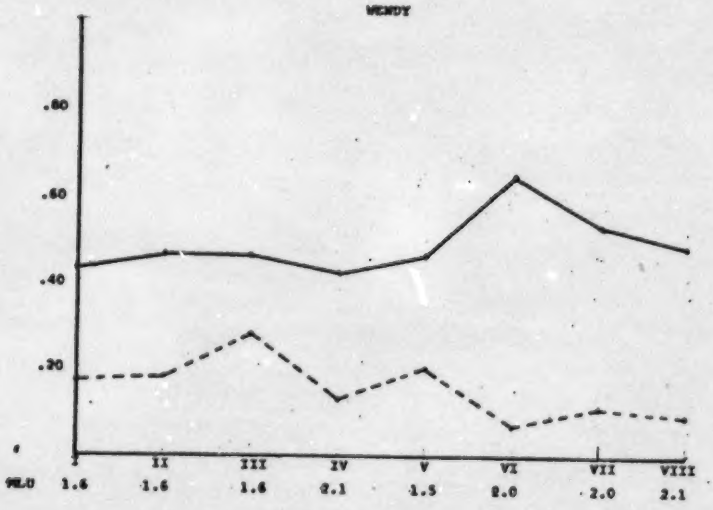
Proportion of Multi-Word Relations

Accounted for by Functional Relations and Verb Relations

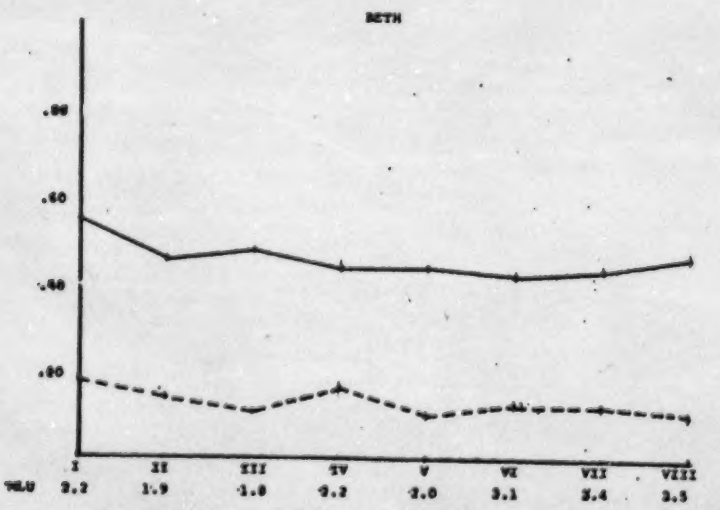
AMY



WENDY



BETH



——— verb relations (action, locative action, locative state, state, notice, intention)

- - - - functional relations (existence, negation, recurrence)